



Model Number

KFU8-FSSP-1.D-Y180599

Frequency voltage current converter
40 kHz version

Features

- Limit frequency 40 kHz
- Voltage or current output
- Incrementing output (Spacing factor 1 ... 9999)
- 2-, 3-, 4-wire sensors and rotary encoder can be connected
- Auxiliary power output for sensors
- Connection via Power Rail
- Period measurement
- Display: Input in Hz or 1/min, output in V or mA
- adjustable updating of indication (0,001 ... 2,5 s)

Accessories

VAZ-CHAIN-BU/BN70MM/1,0-25

25-point wiring link for control cabinet modules with screw terminals

Technical data

Functional safety related parameters

MTTF_d 100 a

Supply

Rated voltage U_r 20 ... 30 V DC
Fusing external fusing 4 A
Power consumption < 5 W

Indicators/operating means

Type 4-digit, 7-segment red display, 7 mm digit height
Display interval 0.002 ... 9999 Hz or 0.01 ... 9999 min⁻¹
Parameter assignment keypad-driven menu

Input 2

Switching point high: 16 ... 30 V DC; max. 10 mA; R_i ≅ 3 kOhm
low: 0 ... 6 V DC
Connection terminals 7+, 13- sensor supply
terminals 14, 15 NPN/PNP input (galvanically isolated)
Connectable sensor types 2-, 3-, or 4-wire proximity switches and incremental rotary encoder
Sensor supply Rated voltage - 1.5 V non-stabilised; ≤ 30 mA short-circuit protected

Output

Analog voltage output 0 ... 10 V DC; 2 ... 10 V DC; 30 mA max.; resolution: 12 mV; R_i ≅ 330 Ω (terminal 5+, 6-)
Analog current output 0 ... 20 mA; 4 ... 20 mA; resolution: 25 µA; R_i ≤ 600 Ω (terminal 4-, 5+)
Digital incrementing ≥ (U_b -3 V), 20 mA, short-circuit proof (Terminals 1-, 2+) with frequency division F_{in}/1 ... F_{in}/9999

Transfer characteristics

Input frequency ≤ 40000 Hz, pulse pause/pulse length: ≥ 12 µs
Deviation ≤ 0.2 % of full-scale value
Changing interval 5 ms (Internal processing time)

Standard conformity

Electromagnetic compatibility acc. to EN 50081-2 / EN 50082-2

Ambient conditions

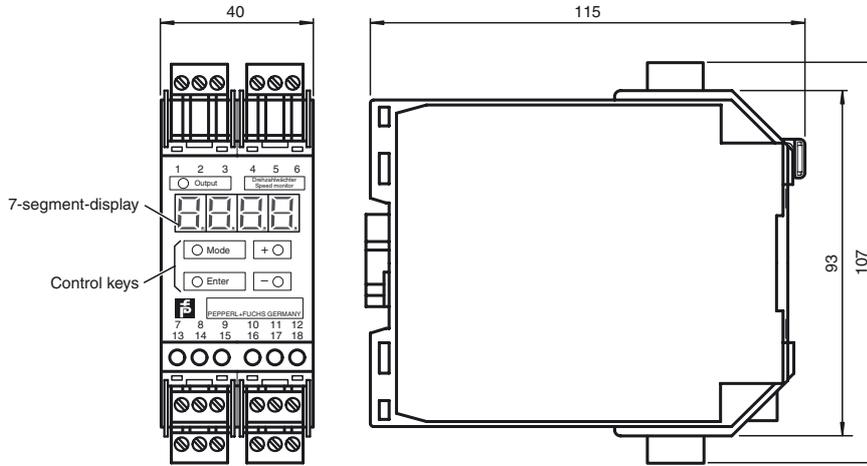
Ambient temperature -25 ... 40 °C (-13 ... 104 °F)
Storage temperature -40 ... 85 °C (-40 ... 185 °F)
Relative humidity max. 80 %, not condensing
Altitude 0 ... 2000 m
Operating conditions The device has only to be used in an indoor area.

Mechanical specifications

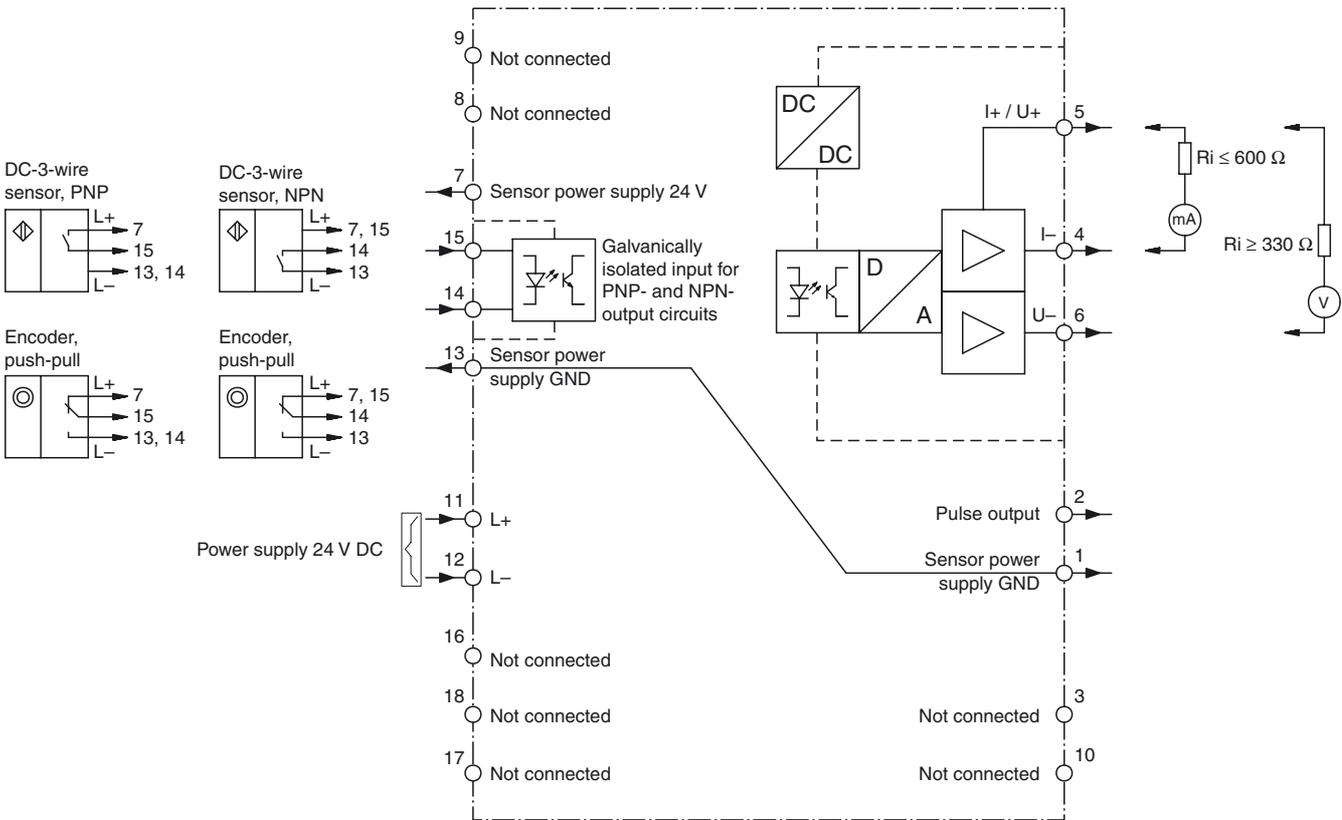
Connection assembly **Caution:** Please be aware that the device may only be connected to a switchable power supply. The switch or circuit breaker must be easy to reach and identified as the separator for the device.
Degree of protection IP20
Connection coded, removable terminals, max. core cross section 0.34 ... 2.5 mm²
Construction type modular terminal housing in Makrolon, System KF
For use in the switch cabinet/switch cabinet module
Mounting snap-on to 35 mm standard rail or screw fixing

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Dimensions



Electrical connection



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Function

The KFU8-FSSP-1.D-Y frequency-voltage/current converter is a device for displaying and monitoring periodic signals, which occur in almost all areas of the automation and processing industry, i.e. frequencies in general and rotational speeds in particular.

Input pulses are evaluated according to the cycle method, i.e. by measurement of the periodicity, and are converted into a frequency or rotational speed by a μ controller. Depending on the measurement range value selected, the μ controller calculates a voltage or current value proportionate to the input frequency and exports this value via a digital-analog converter.

The following analogue signals are available for selection: 0 V ... 10 V, 2 V ... 10 V, 0 mA ... 20 mA, 4 mA ... 20 mA.

The serially switched output provides the input frequency which can be subdivided by the adjustable factor (1 ... 9999).

Special consideration was given to the frequently occurring special case of rotational speed measurement during the development of the device.

This makes it possible for the display and inputs to be either Hz or in min^{-1} .

In addition, in applications with signal encoders that return multiple pulses per revolution, it is possible to operate automatically at the actual speed of the drive by assigning the number (1 ... 1200).

The frequency/voltage/current converter is supplied with 24 VDC.

All commonly available two- three- or four-wire proximity switches and incremental encoders on the input galvanically separated by an optical coupler are accepted as a signal source.

The input signal frequency in Hz or the speed in min^{-1} - or the output signal voltage in V or current in mA - appears in a 4-place 7-segment LED display on the front of the device. Parameters can be set with 4 buttons underneath the display.

